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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,329	04/04/2001	Vaughn Lee Mower	528-009768-US (PAR)	3931

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PERMAN & GREEN, LLP  
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EXAMINER
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WANG, TED M

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 08/03/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/826,329

Applicant(s)

MOWER ET AL.

Examiner

Ted M Wang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04/04/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/12/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1-14 are pending in the application.

#### ***Drawings***

2. The drawings are objected to because
  - In Fig.1 and Fig.2, "DE-I" and "DECRYPT" should be changed to "DI" and "DE-CRYPT" respectively.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Specification***

3. The disclosure is objected to because of the following informalities:
  - Page 3 line 13, "Rx1h" should be changed to "Tx1h".
  - Page 12 line 4, "DE-I" should be changed to "DI".
  - Page 12 line 25, "TX1f" should be changed to "TX1e".
  - Page 12 line 26, "Rx2df" should be changed to "RX2f".
  - Page 13 line 1, "D-I" should be changed to "DI".
  - Page 13, line 1, "Rx2d" should be inserted after "DI".
  - Page 14, line 4, "De-I" should be changed to "DI".

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 7-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art of the instant application in view of Sugiyama et al. (US5,862,175).

- In regard claim 1, the admitted prior art of the instant application discloses a coherent radio frequency ("RF") digital data communication system (Fig.1 elements 1 and 2) for mitigating the loss of digital data among segments of a transmitted message following the trailing edge of a jamming ("J") pulse that strikes a transmitted message (Fig.1 1 elements 1 and 2, and page 4 lines 19-21), the system comprising the following elements, in combination, a transmitter (Fig.1 element 1) having multiple digital data processing elements including a forward error correcting ("FEC") encoder (Fig.1 element Tx1d), an interleaver ("I") (Fig.1 element Tx1e) and a differential encoder ("DE") (Fig.1 element Tx1c), preparing the message for processing by complementary processing elements at a receiver to which a transmitted message is addressed, a receiver (Fig.1 element 2) having multiple, digital data processing elements that are the

complements to those of the transmitter including a FEC decoder (Fig.1 element Rx2e), a de-interleaver ("DI") (Fig.1 element Rx2d) and a differential data decoder ("DDE") (Fig.1 element Rx2f) within a path for processing an incoming digital data message having lost a data segment to a J pulse during transmission, wherein, the DDE synchronizes with either incoming data bit pairs, or inverted data bit pairs, among remnant segments of a message following the trailing edge of an expired J pulse that struck a transmitted message and incoming inverted data bit pairs, allowing the DDE to sequentially process received remnant data segments of a message created by the J pulse thereby allowing the DI and the FEC decoder to sequentially process the received remnant data segments (page 12 lines 6-12 and page 13 line 3 – page 14 line 14, where the instant applicant admitted that the improvement to the ability of a transceiver to recover data from a transmitted message hit by J pulses is due in large part to relocating the DE and DDE with FEC encoder and Interleaver, and De-interleaver and FEC decoder respectively) except specifically teaching that the system components are aligned with an outward path from one element to the next traveled by a message – FEC coder coupled to Interleaver, and Interleaver coupled to Differential Encoder in transmitter side, and Differential Decoder coupled to De-interleaver, and De-interleaver coupled to FEC Decoder in receiver side.

Sugiyama et al. discloses a digital transmission apparatus using differential coding and forward error correction that the system components are aligned with

an outward path from one element to the next traveled by a message – FEC encoder (Fig.8 element 53) coupled to Interleaver (Fig.8. element 54), Interleaver coupled to Differential Encoder (Fig.8. element 55) in transmitter side (Fig.8. elements 52-56), and Differential Decoder (Fig.8. element 58) coupled to De-interleaver (Fig.8. element 59), and De-interleaver coupled to FEC Decoder (Fig.8. element 60) in receiver side (Fig.8. elements 58-61) in order to fully bring the correcting capability into the randomization of the double symbol errors found after the detection of a differentially encoded signal while the interleaving method is generally used.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the admitted prior art of the instant application in view of Sugiyama's disclosure in order to fully bring the correcting capability into the randomization of the double symbol errors found after the detection of a differentially encoded signal while the interleaving method is generally used.

- In regard claim 2, the limitation that the differential encoder ("DE") tx3e of transmitter Tx3 is located near transmitter Tx3g and the differential decoder ("DDE") Rx4d of receiver Rx4 is located near receiver Rx4b can further be taught by Sugiyama et al. in Fig.8 elements 55-57 and column 1 lines 40-46, and Fig.8 elements 57-58 and column 1 lines 48-51.
- In regard claim 3, the limitation that a spread spectrum modulator ('ASSM') element is positioned within transmitter between the DE and receiver transmitter for spreading a transmitted message and a spread spectrum demodulator

(MDDE") is positioned within receiver between the DDE and receiver for de-spreading a received message can further be taught by the admitted prior art of the instant application in Fig.1 elements TX1f and Rx2c, page 3 lines 3-6, and page 4 lines 1-4.

- In regard claim 4, the limitation that transceiver further includes multiplexer ("MUX") and an encrypter ("ENCRYPT") coupled to the FEC coder and other elements of transmitter alignment with an outgoing message and wherein receiver further includes de-multiplexer ("DMUX") and a de-encrypter ("DE-CRYPT") coupled to the FEC decoder and other elements of receiver in alignment with an incoming message can further be taught by the admitted prior art of the instant application in Fig.1 elements Tx1a, Tx1b, Rx2h, and Rx2g, and page 2 lines 3-10, and page 4 lines –18.
- In regard claim 7, the limitation that the SSDM Rx4c includes a pseudorandom ("PN") slip circuit inhibit temporarily disspreading of received data verify the loss of coherence recovery due strike an incoming message by J pulse can further be taught by the admitted prior art of the instant application in page 4 lines 1-4.
- In regard claim 8, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 9, which is a method claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.

- In regard claim 10, which is a method claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 11, which is a method claim related to claim 4, all limitation is contained in claim 4. The explanation of all the limitation is already addressed in the above paragraph.

□

6. Claims 5, 6, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art of the instant application in view of Sugiyama et al. (US5,862,175) and further in view of Peil et al. (US3,936,599.).

- In regard claim 5, the admitted prior art of the instant application and Sugiyama et al. disclose all of the limitation as described in the above paragraph except specifically teaching that receiver includes a burst clamp to enable the receiver to recover coherence with an incoming message following the trailing edge of a J pulse that strikes a transmitted message.

Peil et al. discloses an automatic gain control system that receiver includes a burst clamp (Fig.2 element D2) to enable the receiver to recover coherence with an incoming message following the trailing edge of a J pulse that strikes a transmitted message (column 6 lines 48-59 and claims 11 and 12) in order to prevent the introduction of any large magnitude whiter than white noise into the video output as a result of a phase reversal in the demodulator output.



It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the admitted prior art of the instant application's and Sugiyama's transceiver in view of Peil's disclosure in order to prevent the introduction of any large magnitude whiter than white noise into the video output as a result of a phase reversal in the demodulator output.

- In regard claim 6, the limitation that the burst clamp is located within an automatic gain controller ("AGC") to protect a signal detection diode within a feedback loop of the AGC for rapid coherence recovery with remnant data of a message struck by a J pulse can further be taught by Peil et al. in Fig.2 element D2, column 6 lines 48-59, and claims 11 and 12.
- In regard claim 12, which is a method claim related to claim 5, all limitation is contained in claim 5. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 13, which is a method claim related to claim 6, all limitation is contained in claim 6. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 14, which is a method claim related to claim 7, all limitation is contained in claim 7. The explanation of all the limitation is already addressed in the above paragraph.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (703) 305-0373. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M Wang  
Examiner  
Art Unit 2634

Ted M. Wang



**SHUWANG LIU**  
**PRIMARY EXAMINER**